

The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.

Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KEN CHANG

Appeal No. 2004-0723
Application No. 09/768,974

ON BRIEF

Before KIMLIN, KRASS and PAWLIKOWSKI, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-30, 35 and 37-39. Claims 31-34, 36 and 40, the other claims remaining in the present application, are objected to as being dependent upon a rejected base claim. Claims 1, 13 and 35 are illustrative:

1. A positioner for moving an E-block and a data transducer of a disk drive relative to a storage disk, the E-block having a longitudinal axis, the positioner comprising:

a magnet assembly producing a magnetic field; and

a coil array that couples to the E-block and is positioned near the magnet assembly, the coil array being a generally D-shaped loop including a first segment that is positioned substantially perpendicular to the longitudinal axis of the E-block, the first segment being adapted to interact with the magnetic field to move the E-block relative to the storage disk.

13. A head stack assembly for moving a data transducer of a disk drive relative to a target track of a storage disk, the head stack assembly comprising:

an E-block having a longitudinal axis;

a transducer assembly secured to the E-block, the transducer assembly including a data transducer;

a positioner including (i) a magnet assembly producing a magnetic field, (ii) a coil array secured to the E-block and positioned near the magnet assembly, the coil array being a generally D-shaped loop including a first segment positioned substantially perpendicular to the longitudinal axis, the first segment including (i) a first portion, and (ii) a second portion; and

a control system that directs current to the coil array to move the data transducer relative to the target track.

35. The positioner of claim 23 wherein the magnetic arrays extend a first distance parallel to a longitudinal axis of a head stack assembly that includes the data transducer, the coil array extends a second distance parallel to the longitudinal axis, and the first distance is greater than the second distance.

The examiner relies upon the following reference in the rejection of the appealed claims:

Tohkairin

5,963,398

Oct. 5, 1999

Appellant's claimed invention is directed to a positioner for moving an E-block and a data transducer of a disk drive relative to a storage disk. The positioner comprises a magnet

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assembly (52) and a coil array (78) which is a generally D-shaped loop. The coil array includes a first segment that is substantially perpendicular to the longitudinal axis of the E-block, and it is the first segment that moves the E-block relative to the storage disk.

Appealed claims 1-30, 35 and 37-39 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Tohkairin.

Appellant separately groups the claims on appeal as follows:

(I) claims 13, 20, 23, 29 and 30;

(II) claims 24-28, 37 and 38;

(III) claim 35;

(IV) claim 39;

(V) claims 1-9, 11, 12, 14-19, 21 and 22; and

(VI) claim 10

Accordingly, the claims of groups (I), (II) and (V) stand or fall together.

We have thoroughly reviewed the respective positions advanced by appellant and the examiner. As a result, we will not sustain the examiner's rejection of claims 1-9, 11, 12, 14-19, 21 and 22 (group (V) and claim 10 (group (VI))). We will, however, sustain the examiner's rejection of claims 13, 20, 23, 29 and 30 (group (I)); claims 24-28, 37 and 38 (group (II)); claim 35 (group (III)) and claim 39 (group (IV)).

Claim 1 requires that the first segment (80) of the coil array is positioned substantially perpendicular to the longitudinal axis of the E-block and is "adapted to interact with the magnetic field to move the E-block relative to the storage disk." We concur with appellant that Tohkairin does not describe this claimed feature within the meaning of § 102. The examiner points to element 90-3 of Tohkairin's Figure 14 as corresponding to the claimed first segment of the coil array. However, as argued by appellant at page 6 of the Brief, Tohkairin expressly discloses that rear coil portions 90-3 and 90-4 of the coil 90 impart no rotational torque even if a magnetic flux passes through such portions (see the reference at column 23, line 57 to column 24, line 7). While the examiner explains that Figure 14 of Tohkairin shows an interaction between portion 90-3 of the coil and the magnetic field of the lower and upper magnets 154 and 156, the examiner does not explain how such interaction results in the claim requirement of moving the E-block relative to the storage disk. The section of Tohkairin cited by appellant specifically states that portion 90-3 does not generate any rotational torque.

The rejection of the remaining claims on appeal is another matter, inasmuch as the claims do not contain the requirement

that the first segment of the coil array is adapted to interact with the magnetic field to move the E-block. As for appellant's argument that claim 13 states "the coil array being a generally D-shaped loop," we agree with the examiner that coil 90 of Tohkairin assumes a generally D-shaped loop. Since, as maintained by the examiner, "there are no right angles in the movable coil of Fig. 14" (page 7 of Answer, penultimate paragraph), we do not subscribe to appellant's position that coil 90 of the reference "is a generally rectangularly-shaped loop" (page 7 of Brief, second paragraph). It must be emphasized that the claims only require that the loop of the coil is generally D-shaped, and we find merit in the examiner's rationale that "[t]he shape of a 'D' is highly interpretive, as is evident in the numerous script styles with which 'D' can be written or printed" (page 7 of Answer, penultimate paragraph).

Concerning separately argued claims 24-28, 37 and 38, we concur with the examiner that first segment 90-3 of Tohkairin is linear (straight) and second segment 90-4 forms an arc (curve), thereby meeting the claim 24 recitation that "the first segment is substantially linear and the second segment forms an arc."

As for the relative distances regarding the magnetic arrays and the coil array recited in claim 35, appellant has not refuted the factual determination of the examiner as depicted in the

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drawing that is part of the Examiner's Answer. This also holds for separately argued claim 39. We note that appellant states that "[c]laim 39 distinguishes over *Tohkairin* for the reasons set forth above for the Group II and III claims" (page 8 of Brief, paragraph four).

In conclusion, based on the foregoing, we will sustain the examiner's rejection of claims 13, 20, 23-30, 35 and 37-39, but reverse the examiner's rejection of claims 1-12, 14-19, 21 and 22. Accordingly, the examiner's decision rejecting the appealed claims is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

EDWARD C. KIMLIN)	
Administrative Patent Judge)	
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ERROL A. KRASS)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
)	
)	
BEVERLY PAWLIKOWSKI)	
Administrative Patent Judge)	

ECK:clm

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David M. Sigmond
Maxtor Corp.
2452 Clover Basin Drive
Longmont, CO 80503